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**Datasheet for the decision
of 13 June 2008**

Case Number: T 1347/05 - 3.5.05

Application Number: 02254392.0

Publication Number: 1286249

IPC: G06F 3/00

Language of the proceedings: EN

Title of invention:

Virtual reality systems and methods

Applicant:

Lucent Technologies Inc.

Opponent:

-

Headword:

Virtual Reality/LUCENT

Relevant legal provisions:

EPC Art. 123(2)

Relevant legal provisions (EPC 1973):

EPC Art. 84, 113, 116

EPC R. 68

RPBA Art. 15(3),(6)

Keyword:

"Lack of clarity, lack of support - all requests"

"Added subject-matter - all requests"

"Appellant absent in oral proceedings"

Decisions cited:

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Catchword:

-



Case Number: T 1347/05 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 13 June 2008

Appellant: Lucent Technologies Inc.
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Representative: Sarup, David Alexander
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 8 June 2005
refusing European application No. 02254392.0
pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman: D. H. Rees
Members: P. Corcoran
P. Schmitz

Summary of Facts and Submissions

I. This is an appeal against the decision of the examining division to refuse the European patent application No. 02 254 392.0 published as No. 1 286 249. The decision was delivered in writing and dispatched on 8 June 2005.

II. The subject matter of independent claims 1 and 5 filed on 17 December 2004 was considered not to involve an inventive step over document

D1: US 5 588 139 A

combined with the teaching of other documents which are not relevant to the present decision.

III. Notice of appeal was received, and the appropriate fee paid, on 2 August 2005. A statement setting out the grounds of appeal was submitted on 10 October 2005. The claims on file were maintained as a primary request and claim sets of three auxiliary requests were enclosed.

IV. In a communication accompanying a summons to oral proceedings to be held on 13 June 2008 the board gave its preliminary opinion that none of the appellant's requests were allowable.

The board raised objections in respect of formal deficiencies in the requests under Arts. 84 and 123(2) EPC and further expressed the opinion that, even if these objections were to be overcome, the claimed subject-matter did not appear to involve an inventive step. The following documents which are extracts from

textbooks were cited *inter alia* by the board of its own motion pursuant to Article 114(1) EPC:

- D8: W. Barfield, T. Caudell (eds.), "Fundamentals of Wearable computers and Augmented Reality", Laurence Erlbaum Associates, 2001, ISBN 0-8058-2902-4, pp.3-26 and 715-745;
- D9: S Tabbane, "Handbook of Mobile Radio Networks", Artech House Inc., 2000, ISBN 1-58053-009-5, pp. 311-367 and 543-585;
- D10: J. Walrand, P. Varaiya, "High-Performance Communication Networks", Morgan Kaufmann Publishers, 2000, ISBN 1-55860-574-6, pp.114-127.

- V. With a letter of reply submitted on 12 May 2008, the appellant submitted claim sets 1 to 10 of a main and two auxiliary requests and claims 1 to 8 of a third auxiliary request to replace the requests on file.
- VI. The appellant subsequently informed the board that it would not be attending the oral proceedings. The appellant additionally requested cancellation of the oral proceedings and continuation of the procedure in writing. The board decided to maintain the oral proceedings as scheduled and communicated this decision to the appellant.
- VII. Oral proceedings were held on 13 June 2008 in the absence of the appellant. The board considered the appellant's request that the decision under appeal be set aside and that a patent be granted based on the main request or any of auxiliary requests 1 to 3 filed with the letter dated 12 May 2008.

VIII. The further documents on which the appeal is based are as follows:

Description, pages:

1-16 as originally filed;

2a as received on 22.01.2004 with letter dated 20.01.2004;

Drawings, sheets: 1/2-2/2 as originally filed.

With the following amendments to the above-mentioned documents according to the request dated 20.01.2004:

Description, pages 3, 16;

With the following amendments to the above-mentioned documents according to the request dated 01.09.2004:

Description, page 7.

IX. Claim 1 of the main request reads as follows:

"A virtual reality system that enables the real-time conduction of a virtual reality episode, comprising:

at least one virtual reality environment user equipment VUE (104) operative to capture and display virtual reality data, associated with at least one user;

at least one virtual reality environment core system VCS (112,124, 148, 152), wherein the at least one VCS has access to subscription information regarding at least one of the at least one VUE (104) and the at least one user

a plurality of virtual reality environment access systems VAS (108, 144, 168, or 184), wherein each respective VAS of the plurality provides wireless connectivity for respective ones of the at least one VUE, whereby the respective

VAS relays messages between the VUE and the at least one VCS; and wherein responsibility for providing connectivity is handed off from a first respective VCS to a second respective VCS if the respective ones of the at least one VUE move out of a first geographic region served by the first respective VCS and into a second geographic region that is served by the second respective VCS; and a virtual reality environment episode management entity VEME (136), in communication with the at least one user and the VCS, wherein the VEME forwards real-time virtual reality data representative of an actual physical environment to the at least one VUE (104) associated with the at least one user through wireless connectivity services of the respective VAS currently serving the at least one VUE of the at least one user based on VUE or user location and/or mobile link information maintained by the VEME."

Claim 5 of the main request reads as follows:

"A method of enabling the real-time conduction of a real-time virtual reality episode VRE, comprising:

receiving a request for establishing a virtual reality episode VRE from VRE user equipment VUE (104);

accessing a relatively local virtual reality environment subscriber database VSD (130) to retrieve subscription information associated with the VUE if an entity receiving the request is a respective home virtual reality core system of the VUE;

accessing a relatively remote VSD to retrieve respective subscription information of the VUE if the entity receiving the request is a visited virtual reality core system VCS (112, 124, 148, 152) relative to the VUE

receiving real time virtual reality data at a virtual reality environment episode management entity VEME (136), wherein the virtual reality data is representative of an actual physical environment (140, 164 or 180);

determining, at the virtual reality environment episode management entity VEME, that the virtual reality data is associated with a virtual reality episode; and

forwarding, based on the accessed subscription information, at least a portion of the virtual reality data to a virtual reality environment user equipment VUE (104) participating in the virtual reality episode, wherein the virtual reality environment user equipment VUE (104) is in wireless communication with the virtual reality environment episode management entity VEME, and wherein the VUE is operative to capture, transmit and display virtual reality data."

Claim 1 of the first auxiliary request adds that the subscription information is "stored in a virtual reality environment subscriber database VSD (130) associated with the at least one VUE and the at least one user". Claim 5 is identical to that of the main request.

Claim 1 of the second auxiliary request further replaces "wherein the VEME forwards real-time ..." of

claim 1 of the first auxiliary request by "wherein the VEME identifies the VRE user equipment (VUE) as participating in the virtual reality episode and, based on the identification forwards real-time ...". Claim 5 replaces "and forwarding, based on the accessed subscription information" of claim 5 of the first auxiliary request by "identifying the virtual reality environment user equipment VUE (104) as participating in the virtual reality episode; and forwarding, based on the accessed subscription information and the identification of the VUE as participating in the virtual reality episode".

Claim 1 of the third auxiliary request is further amended by replacing "forwards real-time virtual reality data representative of an actual physical environment" by "forwards at least a portion of the available real-time virtual reality data representative of an actual physical environment, based on rules indicating the type of information that may be sent to the VUE that are included in the subscription information to which the VCS has access". The independent method claim (now claim 4) differs from the previous claim 5 in that "forwarding, based on the accessed subscription information" is replaced by "forwarding, based on rules indicating the type of information that may be sent to VUE that are included in the accessed subscription information".

- X. At the end of the oral proceedings the chairman announced the board's decision.

Reasons for the Decision

1. *Procedural matters*

1.1 According to Article 116(1) EPC 1973, oral proceedings shall take place either at the instance of the European Patent Office if it considers this to be expedient or at the request of any party to the proceedings. Oral proceedings are considered as an effective way to discuss cases mature for decision, because the appellant is given the opportunity to present its concluding comments on the outstanding issues (Article 113(1) EPC 1973), and a decision based on the appellant's requests may be given at their end (Rule 68(1) EPC 1973).

1.2 The need for procedural economy requires that the board should reach its decision as quickly as possible while giving the appellant a fair chance to argue its case. The appellant gave no reasons to support the request to cancel the oral proceedings scheduled by the board and to continue the procedure in writing. The board considered that, despite the appellant's announced intention not to attend, the twin requirements of fairness and procedural economy were still best served by holding the oral proceedings as scheduled. The request to cancel oral proceedings and to continue in writing was therefore refused.

1.3 Article 15(3) RPBA stipulates that the Board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case. Allowing an

appellant to delay a decision by filing amended requests which are not allowable and not attending oral proceedings at which they could be discussed would also be contrary to Article 15(6) RPBA which stipulates that a Board shall ensure that each case is ready for decision at the conclusion of the oral proceedings, unless there are special reasons to the contrary. An appellant's request to continue the procedure in writing without giving reasons for not attending the oral proceedings already arranged does not comply with this regulation.

- 1.4 In the present case, the amendments filed contain several deficiencies as detailed below. Due to the appellant's absence in the oral proceedings these deficiencies could not be discussed with him. Since the aim of oral proceedings is to come to a final decision by its end and since the appellant did not appear in order to explain why these amendments should be allowable the board can only rely on the appellant's written submissions filed together with the amendments on 12 May 2008. By filing amended claims shortly before the oral proceedings and subsequently not attending these proceedings, the appellant must expect that the board will have to examine whether the amendments newly introduced in the claims comply, *inter alia*, with the provisions of Article 84 EPC 1973 and Article 123(2) EPC.

The main request

2. *Article 84 EPC 1973*

- 2.1 An objection under Article 84 EPC 1973 arises in respect of the expression "based on VUE or user location and/or

mobile link information maintained by the VEME" as recited in the concluding part of claim 1 of the main request pertaining to the definition of the virtual reality environment episode management entity (VEME).

2.1.1 This expression lacks syntactic clarity because it cannot be determined whether it refers to the forwarding of virtual reality data to the VUE or to the serving of VUE by the VAS. Thus the wording of the claim, does not specify clearly what is based "on VUE or user location and/or mobile link information maintained by the VEME".

2.1.2 The board notes that the passages of the description indicated by the appellant as providing support for this amendment are as follows, (cf. p.3 of the letter dated 12 May 2008): p.14 l.6-8; p.6 l.14-18; p.12 l.30 - p. 13 l.1; p.13 l.26 - p.14 l.29. None of the cited passages contain an identifiable disclosure of "mobile link information maintained by the VEME". Consequently, even with recourse to the description it is not clear what exactly this expression is intended to denote. It also follows that this feature lacks support by the description in further contravention of Article 84 EPC 1973.

2.2 An objection under Article 84 EPC 1973 also arises in respect of the wording of claim 5 of the main request, in particular in relation to the following features of said claim:

(i) "receiving a request for establishing a virtual reality episode VRE from VRE user equipment VUE (104)";

(ii) "accessing a relatively local virtual reality environment subscriber database VSD (130) to retrieve subscription information associated with the VUE if an entity receiving the request is a respective home virtual reality core system of the VUE;

accessing a relatively remote VSD to retrieve respective subscription information of the VUE if the entity receiving the request is a visited virtual reality core system VCS (112,124, 148, 152) relative to the VUE";

(iii) "forwarding, based on the accessed subscription information, at least a portion of the virtual reality data to a virtual reality environment user equipment VUE (104) participating in the virtual reality episode".

2.2.1 Feature (i) is unclear because, in the given context, it is not evident from the wording of the claim who or what receives the request.

2.2.2 Feature (ii) also lacks clarity since it is not clear in the context of the rest of the claimed features what is intended by "an entity receiving the request".

According to the embodiment disclosed on p.14 l.30 - p.15 l.18 of the description and based on Fig. 2, a request to establish a VRE episode is initially transmitted from a VUE to a VAS and then routed to a proxy VECE (P-VECE) from where it is forwarded to the home VCS (H-VCS) associated with the VUE, cf. p.15 l.2-8.

Given that the request is forwarded through the network, many entities can be said to receive the request in turn.

Likewise, the expressions "relatively local" and "relatively remote" used in respect of the subscriber databases lack semantic clarity because there is no identifiable specification of a point of reference relative to which the locality or remoteness is to be determined.

The description discloses the transmission of a request to establish a VRE episode and the forwarding of this request to the home VCS associated with the VUE where information is obtained from the subscriber database, (cf. p.15 l.2 - 11). Depending on whether network access is provided via the home VCS or a visitor VCS, the location of the subscriber database could be considered local or remote relative to the VUE. Nevertheless, for any particular VUE there will be only one relevant subscriber database which is to be accessed, i.e. the subscriber database on the home VCS.

The wording of claim 5 in this respect lacks support from the description in that it suggests that there are two distinct subscriber databases, one of which is "relatively local" and one of which is "relatively remote", either of which can be selectively accessed depending on circumstances.

2.2.3 Feature (iii) of 2.2 above lacks clarity since it is not clear what limitation is intended by "based on". The description discloses "forwarding at least a portion of the virtual reality data to a virtual reality environment user equipment VUE", (cf. p.5 l.31 - p.6 l.2; p.6 l.26-

27), but there is no identifiable disclosure of a forwarding "based on the accessed subscription information" as claimed. Thus this feature is also not supported by the description.

2.3 In view of the foregoing, claims 1 and 5 of the main request do not satisfy Article 84 EPC 1973. Hence this request is not allowable.

3. *The auxiliary requests*

The terms and expressions giving rise to the aforementioned formal deficiencies are also present in the first, second and third auxiliary requests. In consequence thereof, said auxiliary requests cannot be allowed for the reasons given in respect of the main request.

4. *Further observations - Article 123(2) EPC*

4.1 The board notes that aside from the lack of clarity in respect of the expression "based on VUE or user location and/or mobile link information maintained by the VEME" as recited in claim 1 of the main request, the amendment of the claim by addition of this expression is considered to introduce subject-matter which extends beyond the content of the application as filed.

4.1.1 Whereas the application as filed refers to determining or tracking a VUE's location, (cf. p.6 l.14-18, p.12 l.31; p.13 l.29), there is no identifiable disclosure in respect of determining the location of a user as distinct from the location of the VUE. Hence, the specification

"based on VUE or user location" (emphasis added) introduces subject-matter for which there is, *prima facie*, no basis in the application as filed.

4.1.2 A similar objection arises in respect of the specification "based on ... mobile link information maintained by the VEME". As noted in 1.1.2 above, there is no identifiable disclosure of "mobile link information maintained by the VEME" in the application as filed. The description on p.14 1.6-8 refers to a VEME maintaining "all the events and VRE users' links within a VRE episode". It is not, however, evident that the "events and users' links within a VRE episode" referred to in the description correspond to the "mobile link information" recited in the claim. Hence, the specification "based on ... mobile link information maintained by the VEME" introduces subject-matter for which there is, *prima facie*, no basis in the application as filed.

4.2 The amendment to claim 5 of the main request specifying that the forwarding of the virtual reality data is "based on the accessed subscription information" is likewise considered to introduce subject-matter which extends beyond the content of the application as filed.

4.2.1 The application as filed discloses the maintenance of rules which govern a user's or VUE's activities, including rules indicating the type of information that may be sent to a VUE based on the capability of the VUE to receive certain types of information, (cf. p.10 1.20-31). This could be considered to disclose, or at least imply, a forwarding of virtual reality data based on rules governing a user's or VUE's activities.

4.2.2 However, according to the description, the aforementioned "rules" represent a category of data distinct from the "subscription information" and are stored in a distinct respective storage area, viz. a "look-up table or database for retrieving rules" rather than the subscription information database. It is noted that the relevant passage on p.10 l.28 - p.11 l.4 of the description refers to two distinct storage structures, viz. a "look-up table or database for retrieving rules" and a "database that contains all the VRE service subscription information data related to the user and/or the VUE".

4.2.3 In view of the foregoing, the board does not consider forwarding of virtual reality data based on rules governing a user's or VUE's activities (cf. p.10 l.28 - p.11 l.4) to correspond to forwarding of virtual reality data "based on the accessed subscription information" as recited in claim 5. Hence, this amendment to claim 5 introduces subject-matter for which there is, *prima facie*, no basis in the application as filed.

4.3 Thus the amendments to claims 1 and 5 of the main request also do not comply with the requirements of Article 123(2) EPC.

4.4 As the terms and expressions giving rise to the aforementioned formal deficiencies are also present in the first, second and third auxiliary requests, these requests likewise fail to comply with the requirements of Article 123(2) EPC.

5. *Further observations - inventive step*

5.1 In view of the formal deficiencies in the appellant's requests noted above it is not necessary for the board to give further consideration to the issue of compliance with the substantive requirements of the EPC.

5.2 Nevertheless, for the sake of completeness, it is additionally noted that even if the appellant had succeeded in remedying the formal deficiencies, the submissions made in the letter dated 12 May 2008 have not convinced the board that, subject to compliance with the formal requirements of the EPC, the claimed subject-matter would involve an inventive step.

5.3 According to the board's understanding of the present application, the claimed invention essentially differs from the system disclosed in D1 in that it specifies additional groups of features relating to the provision of wireless connectivity and mobility management for mobile user terminal devices.

5.4 The overall objective technical problem can thus be seen as how to adapt a system such as disclosed in D1 to provide support for mobile user terminal devices. This is considered to represent an obvious design aim in the light of the skilled person's general technical knowledge as indicated by D8, a textbook extract which has been cited as evidence that the use of non-tethered "wearable" computing devices in the context of virtual reality systems was generally known at the claimed priority date. D8 likewise provides evidence that the skilled person would recognise the need to take account of users'

mobility requirements when designing a system intended to provide support for mobile user terminal devices, (cf., for example, D8: p.718, section entitled Mobility/Coverage Requirement).

- 5.5 The board is of the opinion that the additional features of the independent claims of the appellant's requests which are not found in D1 relate to partial technical problems arising in the context of the overall technical problem formulated above.
- 5.6 The board has not been convinced by the appellant's written submissions that the solutions to the underlying partial technical problems addressed by the corresponding groups of claim features would require the exercise of inventive skill when due account is taken of the relevant general technical knowledge concerning wireless communication networks and the provision of mobility management for mobile user terminal devices in such networks as evidenced, for example, by D9 and D10.
- 5.7 Hence, even if the formal deficiencies in the appellant's requests had been remedied, the board would not have been inclined to acknowledge an inventive step in respect of the claimed subject-matter.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Magliano

D. H. Rees